Risk-Adjusted Private Equity Performance
Using Individual Portfolio Company Outcomes

Gordon M. Phillips*

Tuck School of Business, Dartmouth College

December 15, 2018

For the latest update to this research, please see the web site at:
http://faculty.tuck.dartmouth.edu/gordon-phillips/

* Comments and suggestions for future extensions are welcome. The author can be contacted at Gordon.M.Phillips@tuck.dartmouth.edu. Financial support for this study was provided by the National Association of Investment Companies (NAIC). I thank Tom Blaisdell, Michael Ewens and Arthur Korteweg for helpful comments and discussions, and Robert F. Smith for providing the inspiration for this study. Shawn Honaryar, Steven Karson and Jonathan Song provided excellent research assistantship work for this study. All conclusions, methodology and data analysis conducted in this paper are the author's alone and were not derived, approved or produced conditional upon approval by any third party.

Risk-Adjusted Private Equity Performance

In this paper, I propose a new methodology to take into account risk and the variation in returns in private equity (PE) investments using individual portfolio company outcomes. In public markets, portfolio managers are frequently assessed by both risk and return. Following this same logic, this study provides an initial step to risk-adjust private equity firms using straightforward risk adjustments that are relatively easy to calculate using non-anonymized data available from commercial providers. The key innovation of this new method is that it assesses private equity firm investments by their "central tendency over time" and also adjusts for the risk of the underlying investments in their funds as well as returns in the public equity markets. In private equity transactions, prices paid have increasingly moved higher and it is increasingly more difficult to return to limited partners large multiples of invested capital as the private equity market has become increasingly more competitive and efficient over time. While the traditional internal rate of return (IRR) over the entire portfolio measures the historical performance, fund-level IRRs can be skewed and biased by several large positive or negative outcomes and thus may be less likely to be representative going forward.

In addition, the risk of private equity investments is largely unmeasured despite these investments growing sharply over time and becoming a growing fraction of retirement funds and endowments. This study attempts to help fill this missing knowledge gap about the risk in private equity investments by providing a new simple methodology to risk-adjust private equity returns using individual portfolio company investments and outcomes. In this study, I attempt to capture the central tendency or return for private

equity firms and account for the dispersion of the individual underlying investments, while also adjusting for public market equity returns.[1]

In this study, I focus on private equity and growth equity and do not include early stage venture funds, as venture funds by their very nature are expected to be very risky and typically have many failures in a portfolio. In contrast, private equity buyout and growth equity investments focus on later-stage investments or investments in companies that are more mature and are more likely to have positive cash flows. Thus, the downside risk from the underlying assets in private equity and growth equity should be much lower than venture capital investments and thus are more comparable to publicly traded companies where risk-based adjustments are frequently used.

It is important to recognize that other studies in the academic literature have also presented and developed methods of adjusting for risk in private equity returns. These studies include Driessen, Lin and Phalippou (2012); Ang, Chen, Goetzmann and Phalippou (2013); Korteweg and Nagel (2016); and recently Boyer, Nadauld, Vorkink and Weisbach (2018). The first three of these studies use investment cash flows aggregated to the fund level for the private equity buyout or the venture asset classes to calculate the overall risk exposure versus public market equity indices. They then assess performance using an alpha or excess return after adjusting for market or factor risk. Korteweg and Nagel (2016) use a generalized alpha method to calculate performance and risk exposure versus the public equity market for venture

[1] The objective of this research is to capture the central tendency of investment outcomes and not to let either large positive or large negative returns overly influence the performance measure, while also recognizing the variation in individual investment returns. To the extent that this method is useful to industry participants and is used externally, given the inspiration provided for this study, the measures developed in this paper should be referred to as the Phillips-Smith Risk-Adjusted PE Ratio ® (RAR) and the Phillips-Smith Risk-Adjusted PE Index ® (RAI).

capital. Boyer et al. use secondary market transaction prices to account for the fact that many reported net-asset-values (NAV) may not reflect underlying market values and thus they use secondary transactions. Ang and Sorenson (2012) summarize different existing methods as of the date of their survey.

Each of these methods has its merits and limitations. Most of them capture time-series variation in returns relative to the market and rely on variation in returns and cash flows versus public market returns over time. A typical approach is to regress returns from cash flows or net-asset-values (NAV) on the returns on a public equity market index like the S&P 500. In general, these methods and studies do not attempt to measure or assess the highs and lows of individual investments that are not correlated with public equity market movements, as many of the movements are commonly thought of as idiosyncratic risk. Thus, the risk adjustments commonly employed in these studies mainly capture risks that are correlated with the equity market index. In several cases, these studies are also estimated with anonymized Burgiss data, and thus the identity of the parties is masked to users of the data. From direct conversations, it is clear that many limited partners are also interested in deal-specific risk and fund-specific risk, especially given the large deals that many funds are undertaking. The goal of this paper is thus to produce a method that uses non-anonymized data and that captures the central tendency and risk of underlying private equity investments. The methods used in this study emphasize steady performance and also take into account the variation in the outcomes from the underlying company investments.

It is common to use either the average historical return or the median historical return to get a measure of expected return. The analysis in this paper uses the median realized IRR for individual investments as a

measure of the expected return instead of the average realized return. The rationale for using the median versus the average return is that, in addition to wanting to capture the central investment tendency, many private equity firms have limited data on investment outcomes in the commercially available databases used in this study. The data can thus result in the average being skewed by either positive outliers that may represent "luck" and not the central tendency, or the expected value for new investments going forward. Thus, given the wide range of outcomes and that this paper only uses commercially available non-anonymized data, I use the median realized IRR for a private equity firm as the measure of the expected return.

Also in this analysis, I use individual portfolio company entry and exit individual investment cash flows to assess the risk of returns and do not use reported fund-level net-asset-values (NAVs). I do not use fund-level NAVs for two reasons. First, as has been documented by many previous researchers, fund-level NAVs frequently may not be accurately "marked-to-market" and thus may not reflect the true market value until the portfolio company is either sold or liquidated (e.g. Cumming and Walz (2010), Anson (2013), Welch (2014), Brown, Gredil, and Kaplan (2013), Barber and Yasuda (2017), Hooke and Yook (2017)). Second, and related, return volatilities that use fund-level NAVs can be understated given the lack of current market prices. The method in this paper uses individual cash entry and exit cash flows as these represent cash-in and cash-out at the individual company level. I use the individual investment realizations to also risk-adjust the observed returns for a private equity firm as a measure of risk-adjusted expected return.

The individual cash flows are then used to measure the variation in outcomes within a portfolio to risk-adjust the returns. To risk-adjust the median returns in the analysis, I divide the median investment return measured by the IRR of each investment by the standard deviation across individual investment IRRs for each private equity firm. It should be noted that using the standard deviation across individual investments departs from the traditional Sharpe ratio that is frequently used in public equity markets. The traditional Sharpe ratio used is the expected investment or portfolio return less the risk-free rate divided by the time series standard deviation of the investment or portfolio. In private equity, this method is potentially problematic as there is the challenge that individual investments are not "marked-to-market" every month or quarter as there is not a publically traded market price and cash flows are infrequently realized over time. Thus, individual market prices are not available monthly or quarterly and portfolio net-asset-values are generally based on non-public valuations. Thus, portfolio-reported net-asset-values (NAVs) are subject to the potential problem that the private investments represent calculated values that may frequently depart from selling prices as has been observed when private assets are transacted in the secondary market (see Boyer et al. (2018).

Thus, I take a conservative approach and use the standard deviation of the individual investment returns across all portfolio investments as the measure of the risk of the private equity firm across all its funds. It is thus not a Sharpe ratio as it is the median return divided by the standard deviation across the individual company private equity investment outcomes that are realized. Thus, the analysis in this paper uses the median investment IRRs calculated from deal-level entry and exit cash flows and the standard-deviation across the individual investment IRRs calculated from these cash flows. Ideally, I would compute this measure for each fund of a private equity firm. However, given I impose the requirement of a minimum

of 10 realized investments to more accurately compute the standard deviation, I aggregate across funds for a given private equity firm.

The difference between the previous analyses adjusting for risk and the method in this paper is that this paper calculates the risk-adjustment for each individual private equity firm and thus takes into account the variation across individual investments. This method also enables us to calculate performance indices or league tables at the individual private equity firm.

In addition to median IRR and the risk-adjusted median IRR, the individual investment IRRs are also adjusted for the public equity market returns over the same period of each investment to compute a public market equivalent (PME) for each investment, similar to methods used by Kaplan and Schoar (2005). I then calculate the median market adjusted IRR over the private equity firm's investments. The S&P 500 index with dividends reinvested is used for the public market adjustment. I adjust each investment IRR with the market S&P return with dividends reinvested for the same period of time as the portfolio investment. As in Kaplan and Schoar, the method in this paper has the limitation that it currently does not discriminate in the differences in risk exposure to the market across funds. It will however take into account overall market performance at a broad level and will thus take into account up and down markets. Similar to the previous risk adjustment, I divide the market-adjusted median investment IRR by the standard deviation across the private equity firm's returns of their portfolio investments. Overall, this method is thus similar to the Kaplan – Schoar public market equivalent (PME) but uses median IRRs with an additional extension that adjusts for risk. It uses median IRRs adjusting for public markets producing a median PME and then divides the median PME by the standard deviation across the portfolio investments' PMEs to risk-adjust the median PME.

Data:

Data for this analysis is obtained from the universe of PitchBook and Prequin reported data on individual deals for private equity buyout and growth equity firms. I include individual investments where the purchase price of the company and the exit value of the company are both recorded. In calculating individual investment IRRs, all investments and exit cash flows from a particular portfolio investment that are reported in PitchBook and Prequin are included with entry investment dates from 1990 to 2014. Thus, if a private equity fund invests in additional add-on acquisitions that are recorded, these additional investments are included in the investment IRR calculations. In addition, if the private equity fund exits over time, with a partial exit followed by a second or third exit, all the exiting cash flows from the staged exit would be captured. In the final database, there are several such deals. The maximum number of investments in a particular company by a fund is seven investments, and the maximum exit cash flows from a company is eight cash flows. The results reported in this paper do have the limitation that they rely on the data that is reported to commercial vendors (PitchBook and Prequin), which may only represent a partial subset of the private equity firms' investments. Going forward, it is anticipated that more data will become available if these methods are used and thus the results will become even more accurate and representative. Given the large numbers of public pension funds and endowments that are investing in private equity, over time more data will become available at the individual company level, just like the data that is available for public stock market mutual funds and retirement funds that invest in public equities.

Ideally, each individual fund of the private equity firm would be ranked; however, data limitations prevent individual funds from being used for all but the largest funds. I need to calculate standard deviations across individual company investments and thus I impose a minimum of 10 complete deals with entry

investment data and exit cashflow so I can more accurately calculate standard deviations. I therefore aggregate investments across all funds for a private equity firm and rank private equity firms that have at least $1 billion in assets under management (AUM) and at least 10 recorded portfolio company purchase price and exit cash flows recorded. I also exclude private equity funds that invest primarily in Asia and emerging markets, given I also adjust for market movements using U.S. public equity markets. Lastly, I include all investments from funds with a vintage year of 1990 to 2014 that are covered by PitchBook and Prequin to increase the likelihood that exits are observed from the initial private equity investments. As time passes, more investments and firms will be able to be included in the analysis as exits are realized. 127 private equity firms with multiple funds fit these criteria after imposing these requirements.

Methodology: Risk-Adjusted Median IRR

The following summarizes the three very straightforward performance measures calculated and compared in this paper. The positive side of these methods is that they are straightforward to calculate and thus can be easily adopted by limited partners and others when comparing private equity firms and, with sufficient data, private equity funds. As part of this exercise, I rank private equity firms by these methods and present results for the top-quartile private equity firms under each method.

These methods are:

1. Median IRR at the portfolio-company level for each private equity firm. This method does not account for risk but does capture the central tendency and is thus less impacted by large positive or large negative investment realizations, except to the extent they move the median. Traditional IRRs at the fund level are more impacted by both large positive and negative realizations.
2. Risk adjusted median IRR at the portfolio-company level. The formula for this metric is:

Risk- Adjusted Median IRR$_{i,.p}$ = $\dfrac{Median\ IRR_{\ i,p}}{Standard\ Deviation\ IRR_{i,p}}$

In this formula, i indicates a private equity firm, and p denotes a portfolio of individual investments in different companies for a private equity firm.

3. Ranking by risk- and market-adjusted median IRR at the portfolio-company level. The formula for this metric is:

Risk- and Market- Adjusted Median IRR$_{i,.p}$ = $\dfrac{Median\ (IRR_{\ i,c(t)} - Market\ Return(t))_{\ i,p}}{Standard\ Deviation\ IRR_{i,p}}$

As before, in this formula, i indicates a private equity firm, p denotes a portfolio of individual investments in different companies for that private equity firm, and c indicates a particular company for a private equity firm. Thus $(IRR_{\ i,c(t)} - Market\ Return(t))$ is the IRR on an individual company investment less the market return over the same time period.

Other methods and results that are not included but can be analyzed include:

- Results by 5- and 10-year windows of time.
- Downside loss ratio with the ratio being the percentage of investments that failed to return the initial investment amount.
- Weighted Median IRR with the weights equal to the amount invested in each deal, divided by the standard deviation of investment IRRs.
- Average IRR divided the standard deviation of investment IRRs.

These methods have their merits, but may not give as good as a measure of the central tendency of a new individual investment, which is the goal of this study.

Results:

Three tables present the results from the analysis. The tables show the private equity firm-level median investment IRRs and the risk- and market-adjusted IRRs, and also present the top quartile of firms ranked by these measures. As noted earlier, these methods can be used for individual funds of a private equity firm with more data, but given the limited investment and exit cash flow data available, I aggregate across funds for a given private equity firm. I include a large window from 1990 to 2014. Sub-periods (5 and 10 year periods) can be broken out but are not included at this point.

Method 1: Median Portfolio Investment Return. Table 1 reports the top-quartile private equity firms using method 1: the median IRR at the individual portfolio company level. Under this metric, top-quartile performance ranges from 23.57% to 60.74%. The limitation of this method also becomes clear when one looks at the standard deviation or riskiness of the investments. There is quite a bit of variation in the standard deviation of returns across investments. The standard deviation of underlying portfolio investments for these private equity firms ranges from 31.5% to 228%. Thus, it points to a need for a method that takes into account both central tendency and the standard deviation or riskiness of the investments.

Method 2: Risk-Adjusted Median Investment Ratio for the Median Portfolio Investment. Table 2 reports the top-quartile private equity firms ranked by the risk-adjusted median IRR for their portfolio investments over time. I divide the median IRR by the standard deviation across the private equity firms' investments. While, this ranking does adjust for the risk each firm to deliver the median results reported, it does not reflect the "headwinds" or "tailwinds" provided by the general equity market over the time of

the investment. In the next method, we thus adjust for public equity market returns over the period of the investment.

Method 3: Risk- and Market-Adjusted Median Investment Ratio. Table 3 reports the top-quartile private equity firms ranked by the risk- and market-adjusted median public market equivalent for their portfolio investments over time. Individual portfolio company IRRs are adjusted by the S&P 500 return including dividends for the period of the investment to produce a median private equity firm-level public market equivalent (median PME). As in method 2, I divide the market-adjusted median PME by the standard deviation across the private equity firms' investments. This ranking thus reflects the risk taken to deliver a given median return as well as factoring out any luck associated with strong or weak markets underlying an given investment.

Comparing the results across the three methods, we can see that adjusting for risk is very important. As noted, the standard deviation of top-quartile firm performance ranges from 31.5% to 228%, an extremely large range. Once I risk-adjust the private equity firms' median IRRs for the underlying risk of their portfolio investments, we see that the identity and ranking of top-quartile private equity firms frequently change. Private equity firms that were not in the top quartile when ranked just on the median IRR, in some cases move into the top quartile, adjusting for underlying investment risk. Comparing the results of the last two methods, Table 2 and Table 3 when I adjust for public market movements, we can see that the results do change but less drastically than the changes that are observed after adjusting for risk.

Conclusions:

This paper proposes a new straightforward method to rank private equity firms by their median investment IRRs adjusting for the public market equity movements and the underlying investment dispersion in private equity investments. The key innovation of this new method is that it is a straightforward method that assesses private equity firms by their "central tendency over time" and also adjusts for the risk of the underlying investments and market-wide public equity market movements. While the traditional IRR over the entire portfolio measures the historical performance, it can be skewed and impacted by several large returns and thus may be less representative of future returns going forward. In particular, traditional IRRs at the fund level do not give a good representation of the likelihood of losing money on any particular deal.

This method does require sufficient data on the underlying portfolio investments by the private equity firm's funds. Thus, the accuracy of the ranking is dependent on the access to underlying portfolio investment data. While the data on individual investments and exits in the commercially available databases does not contain all private equity investments, as more private equity firms release their investment returns, the accuracy and comparability of private equity firms and their funds for limited partners will be enhanced. Given the large numbers of public pension funds and endowments that are investing in private equity, with increasingly large investments, more investment and exit data at the individual company level will become publicly available over time, similar to the data that is available for public stock markets and mutual funds. Thus the applicability and representativeness of the results will increase over time.

References

Ang, Andrew, Bingxu Chen, William N. Goetzmann, and Ludovic Phalippo. Estimating private equity returns from limited partner cash flows, Unpublished working paper. Columbia University, 2013.

Ang, Andrew and Morten Sorensen. Risks, returns, and optimal holdings of private equity: A survey of existing approaches, *The Quarterly Journal of Finance*, 2012, 2 (03).

Anson, Mark. Performance measurement in private equity: Another look at the lagged beta effect, *The Journal of Private Equity*, 2013, 29-44.

Barber, Brad M., and Ayako Yasuda. Interim fund performance and fundraising in private equity, *Journal of Financial Economics* 124, no. 1, 2017, 172-194.

Boyer, Brian, Taylor D. Nadauld, Keith P. Vorkink, and Michael S. Weisbach. Private Equity Indices Based on Secondary Market Transactions. No. 25207. National Bureau of Economic Research, Inc, 2018.

Brown, Gregory W., Oleg Gredil, and Steven N. Kaplan. Do private equity funds game returns, SSRN Working Paper# 2271690, 2013.

Cumming, Douglas, and Uwe Walz. Private equity returns and disclosure around the world, *Journal of International Business Studies*, 2010, 41, 727-754.

Driessen, Joost, Tse-Chun Lin, and Ludovic Phalippou. A new method to estimate risk and return of nontraded assets from cash flows: the case of private equity funds, *Journal of Financial and Quantitative Analysis*, 2012, June;47(3):511-35.

Fama, Eugene, and Kenneth R. French, Common risk factors in the returns on stocks and bonds, *Journal of Financial Economics*, 1993, 33, 23-49.

Franzoni, Francesco, Eric Nowak, and Ludovic Phalippou. Private equity performance and liquidity risk, *The Journal of Finance* 2012, 67, no. 6: 2341-2373.

Hooke, Jeff and Ken Yook, The Curious Year-to-Year Performance of Buyout Fund Returns: Another Market-to-Market Problem?, *Journal of Private Equity*, 2017, 21 (1).

Kaplan, Steven N. and Antoinette Schoar. Private equity performance: Returns, persistence, and capital flows. *The Journal of Finance*, 2005, 60(4), pp.1791-1823.

Korteweg, Arthur, and Stephen Nagel. Risk-Adjusting the Returns to Venture Capital, *The Journal of Finance*, 2016, 71 (3), 1437-1470.

Welch, Kyle. Private Equity's Diversification Illusion: Economic Comovement and Fair Value Reporting, *SSRN*, 2014.

Table 1: Top Quartile Private Equity Firms Ranked by Median Investment Internal Rate of Return (IRR)

Private equity firms ranked have 10 or more combined investment and exit cash flows and at least $1 Billion in Assets Under Management (AUM)

Private Equity Firm Name	Median Annual IRR	Rank Median IRR	Standard Deviation of Investments
W Capital Partners	60.74%	1	156.65%
Brentwood Associates	55.46%	2	87.81%
Summit Partners	46.59%	3	111.16%
Lime Rock Partners	45.05%	4	183.23%
EW Healthcare Partners	40.87%	5	83.16%
Livingbridge	40.36%	6	45.52%
Vista Equity Partners	39.78%	7	66.34%
GCP Capital Partners	39.38%	8	214.00%
Baird Capital	39.35%	9	147.03%
Francisco Partners	37.18%	10	177.67%
JMI Equity	35.03%	11	116.92%
Wind Point Partners	34.03%	12	36.29%
Baker Capital	33.95%	13	141.03%
TA Associates Management	32.99%	14	218.80%
Camden Partners	31.38%	15	170.33%
KPS Capital Partners	30.89%	16	62.52%
Oaktree Capital Management	30.84%	17	56.95%
CHS Capital	30.18%	18	45.55%
Navis Capital Partners	27.67%	19	31.50%
ABS Capital Partners	27.26%	20	214.78%
William Blair Capital Partners	26.94%	21	32.97%
Crestview Partners	26.33%	22	51.06%
ABRY Partners	24.42%	23	114.58%
Nautic Partners	24.38%	24	95.46%
Great Hill Partners	24.09%	25	228.27%
ChrysCapital	23.66%	26	62.69%
GTCR	23.57%	27	147.69%

Table 2: Top Quartile Private Equity Firms Ranked by Risk Adjusted Median Investment IRR (Median IRR/Standard Deviation of Investments)

Private equity firms ranked have 10 or more combined investment and exit cash flows and at least $1 Billion in Assets Under Management (AUM)

Private Equity Firm Name	Median Annual IRR	Standard Deviation of Investments	Risk Adjusted Ratio	Risk Adjusted Index
J.W. Childs Associates	20.55%	20.94%	0.98	1
H.I.G. Capital	22.94%	23.99%	0.96	2
Wind Point Partners	34.03%	36.29%	0.94	3
Livingbridge	40.36%	45.52%	0.89	4
Inflexion Private Equity	23.06%	26.09%	0.88	5
Navis Capital Partners	27.67%	31.50%	0.88	6
William Blair Capital Partners	26.94%	32.97%	0.82	7
Genstar Capital	23.42%	31.57%	0.74	8
Weston Presidio	17.72%	24.45%	0.72	9
CHS Capital	30.18%	45.55%	0.66	10
Pacific Equity Partners	20.23%	30.92%	0.65	11
Berkshire Partners	20.54%	31.62%	0.65	12
Sun Capital Partners	17.53%	27.18%	0.65	13
Brentwood Associates	55.46%	87.81%	0.63	14
Bruckmann, Rosser, Sherrill & Cor	22.17%	36.26%	0.61	15
Vista Equity Partners	39.78%	66.34%	0.60	16
Enterprise Investors	18.98%	34.23%	0.55	17
Oaktree Capital Management	30.84%	56.95%	0.54	18
Lightyear Capital	17.48%	33.67%	0.52	19
Crestview Partners	26.33%	51.06%	0.52	20
KPS Capital Partners	30.89%	62.52%	0.49	22
EW Healthcare Partners	40.87%	83.16%	0.49	23
Oak Hill Capital Partners	17.91%	38.63%	0.46	24
Affinity Equity Partners	16.74%	36.95%	0.45	25
New Mountain Capital	15.84%	37.40%	0.42	26
Veritas Capital	21.05%	49.96%	0.42	27
JPMorgan	22.55%	53.72%	0.42	28

Table 3: Top Quartile Private Equity firms Ranked by Risk & Market-Adjusted Investment IRR ((Median (IRR-Market Return))/Standard deviation)

Private equity firms ranked have 10 or more combined investment and exit cash flows and at least $1 Billion in Assets Under Management (AUM)

Private Equity Firm Name	Median Annual IRR Market Adjusted	Standard Deviation of of Mkt. Adj. Investments	Risk & Market Adjusted Ratio	Risk and Market Adjusted Index
Inflexion Private Equity	22.7%	25.3%	0.90	1
William Blair Capital Partners	24.4%	32.8%	0.74	2
Wind Point Partners	28.4%	38.4%	0.74	3
J.W. Childs Associates	16.5%	23.3%	0.71	4
Weston Presidio	14.8%	24.9%	0.59	5
Livingbridge	27.5%	46.6%	0.59	6
Vista Equity Partners	36.1%	64.6%	0.56	7
H.I.G. Capital	13.0%	25.8%	0.50	8
MidOcean Partners	15.6%	31.5%	0.49	9
Navis Capital Partners	15.9%	33.2%	0.48	10
Berkshire Partners	12.6%	30.3%	0.42	11
Sun Capital Partners	10.7%	26.9%	0.40	12
Apax Partners	19.0%	47.8%	0.40	13
Brentwood Associates	35.2%	90.4%	0.39	14
Genstar Capital	11.7%	31.7%	0.37	15
KPS Capital Partners	23.1%	62.8%	0.37	16
Oak Hill Capital Partners	13.4%	39.3%	0.34	17
Bruckmann, Rosser, Sherrill & Company	12.1%	35.9%	0.34	18
CHS Capital	14.7%	44.2%	0.33	19
Investcorp	9.4%	28.3%	0.33	20
W Capital Partners	50.8%	154.5%	0.33	21
Enterprise Investors	12.2%	37.2%	0.33	22
JPMorgan	18.1%	58.0%	0.31	23
Oaktree Capital Management	17.7%	57.4%	0.31	24
EW Healthcare Partners	24.7%	82.6%	0.30	25
Summit Partners	33.2%	114.8%	0.29	26